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(54) Method and apparatus for burst transferring ATM packet header and data to a host computer system

(57) A network interface circuit (NIC) is provided with logic for maintaining various control pointers and at least one control counter for controlling burst transferring of buffered ATM cells to its host computer system in a non-cell-boundary-aligned block manner, distinguishing the ATM packet header from the ATM data most of the time, except for a number of predetermined exceptions. More specifically, ATM packet headers and ATM data are to be burst transferred to separate header and data buffers on the host computer system, except for short and atypical packets, in fixed size blocks, where the block size is complementary to the interface bus, but

not necessarily aligned with the ATM cell boundaries. For the short and atypical packets, both the header and data are to be burst transferred into the header buffer instead. The logic employs a two phase approach to determining the appropriate updates to the relevant control pointers and at least one control counter after each burst transfer of header/data to the header/data buffer. In one embodiment, the logic is provided to the lookahead state machine of an unload block, which is part of the receive block of a system and ATM layer core of the NIC.

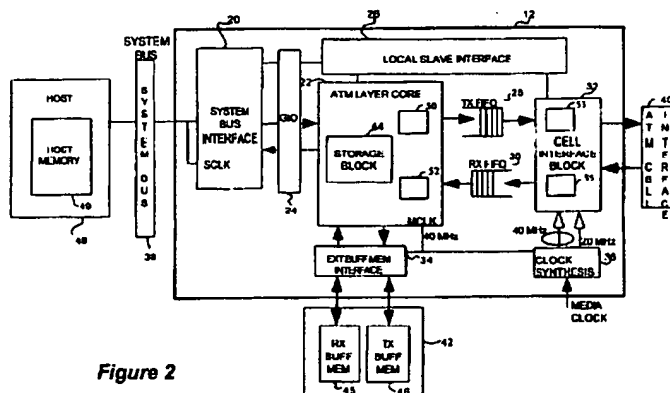


Figure 2

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EUROPEAN SEARCH REPORT

Application Number
EP 96 11 7003

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.8)	
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A	EP 0 674 461 A (SUN MICROSYSTEMS INC) 27 September 1995 * abstract * * column 2, line 53 - column 4, line 9 * * column 4, line 44 - column 5, line 11; figure 1 * * column 7, line 2 - column 7, line 56; figure 3 * * column 9, line 43 - column 10, line 50 *	1,10,18		
A	WO 95 11554 A (LSI LOGIC CORP) 27 April 1995 * abstract; figure 4 * * page 49, line 24 - page 50, line 8 * * page 54, line 2 - page 58, line 22 * * page 92, line 24 - page 93, line 24 *	1,10,18		TECHNICAL FIELDS SEARCHED (Int.Cl.8)
A	US 5 136 584 A (HEDLUND KURT A) 4 August 1992 * abstract * * column 7, line 17 - line 30; figure 4 *	1,10,18		H04Q
The present search report has been drawn up for all claims				
Place of search MUNICH		Date of completion of the search 16 July 1999	Examiner von der Straten, G	
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons Δ : member of the same patent family, corresponding document</p>				

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**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

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The members are as contained in the European Patent Office EDP file on
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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82